LIST OF CONTENTS

VOLUME 41, NUMBER 1, 1988

Articles

Lin Wenxian (*China*) — 1 A general correlation for estimating the monthly average daily direct radiation incident on a horizontal surface in Yunnan Province, China

S. Hammarsten (*Sweden*), **D. van Hattem, H. Bloem** and **R. Colombo** (*Italy*) — 5 Passive solar component testing with identification methods

J. A. Davies and **D. C. McKay** (*Canada*) — 15 Estimating solar radiation from incomplete cloud data

Arvid Skartveit and **Jan Asle Olseth** (*Norway*) — 19 Some simple formulas for multiple Rayleigh scattered irradiance

R. E. Critoph (*England*) — 21 Performance limitations of adsorption cycles for solar cooling

M. J. Carvalho, M. Collares-Pereira, F. M. Cunha and **C. Vitorino** (*Portugal*) — 33 An experimental comparison of operating strategies for solar water systems

G. P. Mulholland, I. J. Hall, R. M. Edgar and **C. R. Maxwell** (*U.S.A.*) — 41 Flux gage calibration for use in solar environments

J. F. Weaver and **M. Segal** (*U.S.A.*) — 49 Some aspects of nonrandom cloudiness in solar energy applications

J. Doménech and **J. Peral** (*Spain*) — 55 Removal of toxic cyanide from water by heterogeneous photocatalytic oxidation over ZnO

L. A. Frulla, D. A. Gagliardini, H. Grossi Gallegos, R. Lopardo (*Argentina*) and **J. D. Tarpley** (*U.S.A.*) — 61 Incident solar radiation on Argentina from the geostationary satellite GOES: Comparison with ground measurements

G. Athanassouli (*Greece*) — 71 A model to the thermal transient state of an opaque wall due to solar radiation absorption

Khaled Gommed and **Gershon Grossman** (*Israel*) — 81 Process steam generation by temperature boosting of heat from solar ponds

Donald A. Neeper (*U.S.A.*) — 91 Analytic model of a passive vapor transport heating system

P. Biondi, L. Cicala and **G. Farina** (*Italy*) — 101 Performance analysis of solar air heaters of conventional design

Communication

Mehmet A. Akgün (*Turkey*) — 109 Heat removal factor for a serpentine absorber plate

113 Errata

VOLUME 41, NUMBER 2, 1988

Articles

A. Prieto and **J. M. Ledanois** (*Venezuela*) — 115 A new solar map of Venezuela

K. Altfeld, W. Leiner and **M. Fiebig** (*FRG*) — 127 Second law optimization of flat-plate solar air heaters

A. Vitner, S. Sarig and **R. Reisfeld** (*Israel*) — 133 The self-generation mechanism of a laboratory scale saturated solar pond

K. Kamiuto, M. Iwamoto, K. Koga and **S. Sata** (*Japan*) — 141 Thermal behavior of a small, saltless solar pond with the semitransparent multilayer surface insulation system

T. Galal, P. Nardin and **J. Mignot** (*France*) — 147 An analysis for solar central receiver systems with terminal concentrators or variable apertures

S. Al-Aruri, M. Rasas, K. Al-Jamal and **N. Shaban** (*Kuwait*) — 159 An assessment of global ultraviolet solar radiation in the range (0.290–0.385 μm) in Kuwait

A. Al-Kandari, A. M. R. Al-Marafie, R. K. Suri and **G. P. Maheshwari** (*Kuwait*) — 163 Performance assessment of a paraboloid dish collector field

A. A. Elimam, A. Awni, S. Moustafa and **S. Al-Akhond** (*Kuwait*) — 169 Application program for the Sulaibiya solar thermal power plant: Energy flow and water allocation model

A. Brandstetter (*Australia*) — 183 On the stability of calcium chloride hexahydrate in thermal storage systems

F. C. Porisini (*Italy*) — 193 Salt hydrates used for latent heat storage: Corrosion of metals and reliability of thermal performance

E. Bilgen (*Canada*) — 199 Solar hydrogen production by hybrid thermochemical processes

C. H. Strauss, S. C. Grado, P. R. Blankenhorn and **T. W. Bowersox** (*U.S.A.*) — 207 Economic evaluations of multiple rotation SRIC biomass plantations

VOLUME 41, NUMBER 3, 1988

Articles

J. M. Gordon and **T. A. Reddy** (*Israel*) — 215 Time series analysis of daily horizontal solar radiation

Christopher L. Gardner and **C. Andrew Nadeau** (*Canada*) — 227 Estimating south slope irradiance in the Arctic—A comparison of experimental and modeled values

S. A. Naman, S. A. Said and **F. M. Hussein** (*Iraq*) 241 Photochemically assisted solar energy storage using eriochrome black-T in solar flat collector

M. H. Omar and **M. A. Mosalam Shaltout** (*Egypt*) 247 Solar net radiation over water in a class "A" evaporation pan at Giza, estimated on the base of its close relationship with global radiation

Wolfgang J. C. Schiel and **Michael A. Geyer** 255 Testing an external sodium receiver up to heat fluxes of 2.5 MW/m^2: Results and conclusions from the IEA–SSPS high flux experiment conducted at the central receiver system of the Plataforma Solar de Almeria (Spain)

A. Argiriou, F. Papini, R. Pasquetti, S. Arconada, P. Gallet and **M. Audibert** *(France)* 267 Measurement of brightness concentration distribution in the focal zone of a focusing solar collector with an infrared camera

A. Louche, G. Simonnot, M. Iqbal and **M. Mermier** (*France*) 273 Experimental verification of some clear-sky insolation models

J. R. Connell (*U.S.A.*) 281 A primer of turbulence at the wind turbine rotor

295 *Erratum*

Book Reviews

John Littler (*U.K.*) 297 *The Design of Energy Responsive Commercial Buildings* by Steven Ternoey, Larry Bickle, Claude Robbins, Robert Bush, and Kitt McCord

Beverly Berger (*U.S.A.*) 298 *Energy from Biomass—3rd E. C. Conference* by W. Palz, J. Coombs and D. O. Hall (eds.)

Robert Hill (*U.K.*) 298 *Thin Film Solar Cells* by K. L. Chopra and S. R. Das

Books Received

301 *Physics and Technology of Solar Energy* by H. P. Garg, M. Dayal, G. Furlan and A. A. M. Sayigh

301 *Solar Cells: Their Optics and Metrology* by M. M. Koltun

303 ISES International Awards and Call for Nominations

VOLUME 41, NUMBER 4, 1988

Articles

O. A. Salman and **N. Khraishi** (*Kuwait*) 305 Thermal decomposition of limestone and gypsum by solar energy

K. Altfeld, W. Leiner and **M. Fiebig** (*Federal Republic of Germany*) — 309 Second law optimization of flat-plate solar air heaters. Part 2: Results of optimization and analysis of sensibility to variations of operating conditions

J. O'Gallagher and **R. Winston** (*U.S.A.*) — 319 Performance model for two-stage optical concentrators for solar thermal applications

J. M. Baldasano, J. Clar and **A. Berna** (*Spain*) — 327 Fourier analysis of daily solar radiation data in Spain

Alfonso Soler (*Spain*) — 335 The dependence on solar elevation of the correlation between monthly average hourly diffuse and global radiation

Wim Sloetjes, Jaap Haverhals and **Kees Kerkdijk** (*The Netherlands*), **Iman Osman Ahmed, Hisham Saber** and **Shommo Shaa Eldin** (*The Sudan*), **Rob Porsius** and **Ad Stolk** (*The Netherlands*), **Asha El Karib, Kahil Yousif** and **Hassan Wardi Hassan** (*The Sudan*) — 341 Operational results of the 13 kW/50 m^3 solar-driven cold store in Khartoum, The Sudan

S. Chirarattananon, C. Chinporncharoenpong and **R. Chirarattananon** (*Thailand*) — 349 A steady-state model for the forced convection solar cabinet dryer

M. A. Rosen and **F. C. Hooper** (*Canada*) — 361 The development of a model for the geometric description of clouds and cloudy skies

P. Ineichen, A. Zelenka, O. Guisan and **A. Razafindraibe** (*Switzerland*) — 371 Solar radiation transposition models applied to a plane tracking the sun

K. K. Gopinathan (*Lesotho, Africa*) — 379 Computing the monthly mean daily diffuse radiation from clearness index and percent possible sunshine

A. W. Harrison and **C. A. Coombes** (*Canada*) — 387 An opaque cloud cover model of sky short wavelength radiance

Book Reviews

Chris van Koppen (*The Netherlands*) — 393 *Thermal Energy Storage* by G. Beckman and P. V. Gilli

John Twidell (*Scotland*) — 393 *Energy, Environment and Development in Africa* by R. Peet

John Twidell (*Scotland*) — 394 *Wood, Energy and Households* by C. Barnes, J. Ensminger and P. O'Keefe (Eds.)

395 Announcement

VOLUME 41, NUMBER 5, 1988

Articles

P. C. Jain, S. Jain, and **C. F. Ratto** (*Italy*) 397 A new model for obtaining horizontal instantaneous global and diffuse radiation from the daily values

A. Zelenka (*Switzerland*) 405 Asymmetrical analytically weighted $\bar{R}_b$ factors

M. Halmann and **Z. Porat** (*Israel*) 417 Photooxidation of bromide to bromine in Dead Sea water

J. M. Gordon and **T. A. Reddy** (*Israel*) 423 Time series analysis of hourly global horizontal solar radiation

Haruo Uehara, Carmelo O. Dilao, and **Tsutomu Nakaoka** (*Japan*) 431 Conceptual design of ocean thermal energy conversion (OTEC) power plants in the Philippines

P. Polato and **E. Masetti** (*Italy*) 443 Reflectance measurements on second-surface solar mirrors using commercial spectrophotometer accessories

Donald L. Wise and **Don Augenstein** (*U.S.A.*) 453 An evaluation of the bioconversion of woody biomass to calcium acetate deicing salt

H. N. Post and **M. G. Thomas** (*U.S.A.*) 465 Photovoltaic systems for current and future applications

S. A. Paripatyadar and **J. T. Richardson** (*U.S.A.*) 475 Cyclic performance of a sodium heat pipe, solar reformer

Ch. Schmidt, A. Goetzberger, and **J. Schmid** (*W. Germany*) 487 Test results and evaluation of integrated collector storage systems with transparent insulation

495 Announcement

497 ISES International Awards and Call for Nominations

VOLUME 41, NUMBER 6, 1988

Articles

K. K. Gopinathan (*Africa*) 499 A general formula for computing the coefficients of the correlation connecting global solar radiation to sunshine duration

David L. Bushnell (*U.S.A.*) 503 Performance studies of a solar energy storing heat exchanger

H. Saha, P. Basu and **S. B. Roy** (*India*) 513 Applications of photovoltaic systems—an economic appraisal with reference to India

A. Akbarzadeh and **P. Manins** (*Australia*) 521 Convective layers generated by side walls in solar ponds

Essam El-Rafey and **Mohamed El-Sherbiny** (*Egypt*) 531 Load/weather/insolation database for estimating photovoltaic array and system performance in Egypt

D. Poje and **B. Cividini** (*Yugoslavia*) 543 Assessment of wind energy potential in Croatia

B. N. Prasad and **J. S. Saini** (*India*) 555 Effect of artificial roughness on heat transfer and friction factor in a solar air heater

J. G. McGowan, J. F. Manwell and **S. R. Connors** (*U.S.A.*) 561 Wind/diesel energy systems: Review of design options and recent developments

J. J. Michalsky, R. Perez, R. Stewart, B. A. LeBaron and **L. Harrison** (*U.S.A.*) 577 Design and development of a rotating shadowband radiometer solar radiation/daylight network

D. L. Critten (*U.K.*) 583 Light enhancement using E–W aligned long prismatic arrays at high latitude

D. L. Loveday (U.K.) 593 Thermal performance of air-heating solar collectors with thick, poorly conducting absorber plates

I Volume 41, 1988—List of Contents and Author Index